



# University of Hawaii at Manoa

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Office of the Director

RL:0457-A

HB 2994-82, HD1  
MAKING AN APPROPRIATION FOR THE  
ACQUISITION OF KAWAINUI MARSH, O'AHU

Statement for  
House Committee on  
Finance  
Public Hearing - 11 March 1982

The attached statement on HB 2994-82 was submitted to House Committee on Water, Land Use, Development, and Hawaiian Affairs, public Hearing - 27 February, 1982. As this bill has not been amended substantially, except to put an exact dollar sum of "\$4,500,000, or so much thereof as may be necessary" for the acquisition of Kawainui Marsh, O'ahu, the statement is still applicable.



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HB 2994-82

## MAKING AN APPROPRIATION FOR THE AQUISITION OF KAWAINUI MARSH, O'AHU

Statement for  
House Committee on  
Water, Land Use, Development & Hawaiian Affairs  
Public Hearing - 27 February 1982

By

Doak C. Cox, Environmental Center  
Diane C. Drigot, Environmental Center  
Bertell Davis, Anthropology  
Sheila Conant, General Science  
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Michael Shiroma, Pacific Urban & Regional Planning  
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HB 2994-82 would provide for the acquisition of Kawainui Marsh, O'ahu, by appropriation from the general revenues of the State of Hawaii out of fiscal year 1982-83 funds, and for the Department of Land and Natural Resources to be the designated agency for expending these funds. This statement on the bill has been submitted for review to the Legislative Subcommittee of the University of Hawaii Environmental Center. However, it does not reflect an institutional position of the University.

Kawainui Marsh, O'ahu lies in the heartland of Kailua ahupua'a, the largest freshwater marsh in the State of Hawaii, located within a short, ten-mile commuting distance of this Conference Room. Over the past twenty years or more, numerous private and government-sponsored efforts, dollars, and man-hours have been expended to better understand and plan for the wise management of this 1,000-acre wetland resource. These investments have been prompted by formal expressions of cultural and natural environmental values in applicable state and federal laws (listed on Attachment A), and in research efforts, plans, studies, and public testimony engendered by the applicability of these laws to various developments proposed for the Kawainui Marsh area. The Environmental Center has coordinated a considerable amount of university-based expertise review over the years of these laws, studies, and interpretations of their relevance to the affects of proposed developments on the Marsh. The cumulative thrust of

these reviews is that a uniquely significant association of values (ecological, cultural, educational, archeological, and aesthetic) are found in the resources which comprise the Marsh. Several examples of these documented values are listed as follows:

- o ecological--Repeated censuses and studies indicate that four waterbird species recognized as endangered by both state and federal law do breed in the Marsh, three of them on a regular basis and one in the recent past. So vital is this habitat for these protected bird species that the State of Hawaii has already declared that the Kawainui Marsh area is an Essential Habitat for several endangered Hawaiian waterbirds and has cooperated with the U.S. Fish and Wildlife Service in its current ongoing review of a proposed designation of the Kawainui Marsh area as a Critical Habitat for the same endangered bird species.
- o cultural--Based upon documentation presented by the U.S. Army Corps of Engineers, the State Historic Preservation Office, the Bishop Museum staff, Mr. Apple of National Park Service, Ms. Muriel Seto of The Congress of the Hawaiian People and State Representative Evans, the National Historic Preservation Office has declared the Kawainui Marsh area to be eligible for listing in the National Register of Historic Places. This determination was based upon much information regarding the cultural perception of Kawainui--as an early settlement; as associated with important traditional/historic events and figures; as an important component in a larger subsistence system nested within Kailua Ahupua'a; and as a major cultural component of a larger cultural district which would include not only the ponding/wet agricultural area, but also the remains of extensive terracing systems, ceremonial sites, burial sites, and habitation areas associated with this agricultural complex.
- o educational--There is a continuing demand for and use of Kawainui Marsh as a living learning laboratory by students, teachers, and faculty, at the University of Hawaii, the State Department of Education school system, at private schools such as Kamehameha and Punahou, and among private organizations and groups, such as The Sierra Club, the National Audubon Society, and the hula Hālau Mōhala 'Ilima. Attachments A-2 and A-3 show documentation of state-wide and internationally-significant educational values associated with the Marsh--that is, the awarding of a grant to Dr. Diane Drigot, Acting EVS, Coordinator, from the UH-Manoa President's Educational Improvement Fund, to develop a Multi-Media Guide to the Use of Kawainui Marsh as an Educational Resource, and the recent filming of Mapuana de Silva's hula hālau at the Marsh, by Dr. Roger R. Jones, producer of the "World About Us" series for the British Broadcasting Corporation, and staff member of the same BBC natural history unit that produced the "Life on Earth" series now being viewed by Hawaiian audiences on KHET, Channel 11.
- o archeological--Excavations and core samples from several recent studies performed by Bishop Museum archeologists and world-famous Visiting Sea Grant Scholar/geologist, Dr. John C. Kraft, reveal evidence indicating that Kawainui Marsh was once an open bay, and that Polynesians first entered Hawaiian waters sometime around A.D. 300-500, and that the slopes around the Kawainui basin were very likely among the first areas settled. These findings, although significant in themselves, further reinforce the educational values of the Marsh area. Here we have a readily accessible opportunity to study almost two thousand years of changing human perceptions and uses of their environmental resources, and of man/land interrelationships as the surrounding valley and Marsh basin have undergone considerable landscape modification since the first human occupation of the Marsh perimeter.

- o aesthetic--Careful review of the reams of public testimony that have been collected reveals a frequently-made observation that the Kawainui Marsh as open space provides a vital and highly accessible "breathing space" enjoyed by many who reside on or visit this, our most populous and most urbanized island. The inclusion of an aesthetic analysis of the Marsh as a part of a series of baseline planning studies sponsored by the State Department of Planning and Economic Development, in its current CZM-backed efforts to develop a resource management plan for the Marsh, is another indicator of its aesthetic significance and potential. The inclusion of this element in the planning process reflects a recent trend in planning thought--the importance of human values that may not be strictly quantifiable or have measurable economic consequences. The aesthetic factor is also listed among the criteria for ascribing national significance to buildings, sites, objects, or districts. To possess national significance, a historic or pre-historic site such as Kawainui must possess "integrity" as defined by "original location and intangible elements of feeling and association."

When taking all the factors into account, one of the most effective ways to preserve the integrity of these values associated with the Marsh is for the State of Hawaii to take timely action to acquire the Marsh. This seems to be the intent of HB 2994-82.

In considering this legislation, there is one issue which the Committee might want to take into account--that is, the lack of a defined boundary for the geographic scope of acquisition attention. We have provided you with a set of Attachments (B-1 - B-3) which we will refer to in discussing this issue.

Attachment B-1 indicates one of the first expressions of the geographic scope of the State's interest in preserving these Marsh values. It shows the scope of the areas covered by the Department of Planning and Economic Development's 1976 petition to the Land Use Commission for land reclassification from urban to conservation district along the periphery of the Marsh.

Attachment B-2 indicates the boundary of the Marsh area recently declared eligible for the National Register of Historic Places.

Attachment B-3 indicates the boundaries of the Marsh as recently drawn in the federally-mandated Draft Environmental Impact Statement for the sewer project associated with the Marsh.

If you compare these three examples of the Marsh area, you will find that they overlap and reinforce each other in encompassing the area being valued by the pertinent state and federal laws. In conclusion, the most effective way for the State to preserve these values would be to acquire the Kawainui Marsh, and to refer to these earlier boundary determinations for guidance in determining the Kawainui Marsh area to be included in the acquisition process.

Laws, Regulations, or Ordinances which Have Some Bearing  
on the Future Disposition of Kawaiinui Marsh

Law, Regulation, or Ordinance	Purpose	Agency/Admin.
FEDERAL		
Endangered Species Act of 1973	Conservation of endangered threatened species	DOI, FWS
Clean Water Act	Regulation of disposal of dredge and fill material, wastewater management pollutant discharge	COE
Flood Control Act, Section 204	Flood control	COE
Flood Insurance Program	Flood plain development controls and insurance subsidies	FEMA/FIA
National Environmental Policy Act	Sets EIS requirements	EPA
Historic and Cultural Resources Act	Historic and cultural preservation	DOI
STATE		
Endangered Species Act	Conservation of endangered and threatened species	DLNR
Historic Objectives and Sites, Memorials (HRS 6)	Identification of historic sites and memorials	DLNR
Federal Flood Insurance (HRS 46-11)	State coordination of Federal Flood Insurance Program	DOJ, Counties
Water and Land Development (HRS 174)	Survey, acquisition, regulation of land and water resources	DLNR
Flood Control and Flood Water Conservation (HRS 179)	Planning and coordinated implementation	
Office of Hawaiian Affairs (HRS, Chapter 10)	Requires State government to actively work toward Chapter goals	Body Corporate

Law, Regulation, or Ordinance

Purpose

Agency/Admin.

STATE (continued)

Oil and Water Conservation Sediment Control (HRS 180-180C)	District planning and administration State C.D.'s	DLNR
Coastal Zone Management (HRS 205A)	Planning, coordination, and administration of State program	DPEU
State Policy Plan (HRS 22b)	Design and coordination of State plan	DPEU
Environmental Quality and Planning Regulations (HRS 341-342-343-344)	Environmental quality, state policy and E.I.S. administration	OEQC
Park Regulation 1	Park systems regulation	DLNR
Park Regulation 2	Historical and archaeological sites	DLNR
Park Regulation 4	Land use within C.D.'s	DLNR
Park Regulation 1-40, and 42	Protection and regulation of fish and game	DLNR

CITY AND COUNTY OF HONOLULU

Resolution #209	Assigns control of 750 acres of Marsh to Department of Parks and Recreation	DPR
Ordinance 4529	SMA permit procedure	DLU
Ordinance 4621	Park dedication	DPR



## University of Hawaii at Manoa

ENVIRONMENTAL STUDIES

Environmental Center

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Office of the Director

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### P R E S S   R E L E A S E

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UH-Manoa students who enroll in an "Environmental Practicum" course next term (I.S. 489), will have a unique opportunity to participate in a grant-assisted project to produce a "Multi-Media Guide to Use of Kawainui Marsh, O'ahu as an Educational Resource." Dr. Diane Drigot, course instructor and Acting Coordinator of the Environmental Studies program, has been awarded a grant to produce such a guide for the educational benefit of all who contribute to its production, evaluation, and use. The source of Dr. Drigot's grant is the UH-Manoa Campus Educational Improvement Fund (EIF) which comprises monies to support faculty projects designed to improve the excellence of the undergraduate instructional program. Priority is given to projects that focus on curriculum improvement through new course materials and innovative, improved strategies for using existing course materials.

The educational value of Kawainui Marsh and the issues surrounding its change and management have been recognized for a long time. Over the past twenty years, there has been a growing educational use of the area by UH-Manoa faculty and students, as well as by the state and private school systems, community, and environmental organizations. Located within a 14-mile commuting distance of the UH-Manoa campus, this 1,000-acre wetland has many natural and cultural values whose significance has been widely recognized by numerous government agencies, private organizations, and citizens' groups at the local, state, and national levels. The marsh acts as a flood control basin for the Kailua community, a nesting area for several endangered Hawaiian waterbirds, a nursing ground for certain species of fish and shellfish, the location of several ancient Hawaiian ceremonial and agricultural sites on the State and National Historic Registers, and the site of a recent, exciting discovery--scientific evidence that human settlement and agricultural use of the area began at least 1,500 years ago or more, making this one of the oldest known sites of human habitation in the Hawaiian Islands. This unique association of natural and cultural values illustrated at the Marsh has been officially recognized by such actions as the declaration of the Marsh's eligibility to the National Register of Historic Places and the U.S. Fish and Wildlife Service's on-going assessment of the Marsh's eligibility to the system of National Wildlife Refuges.

The need for a comprehensive data base in order to make informed choices among resource management options for the marsh has been widely recognized among citizen groups, agencies, landowners, and others with vested interest in the future of this resource. This need has intensified in the past several years as the pressures of urbanization along the Marsh periphery have increased. Remnants of the earliest polynesian uses of the area--extensive stone terraces where taro and fish ponds once thrived--are still observable in sharp contrast and proximity to the more recent uses to which the marsh periphery has been put (eg., quarry operation, sanitary landfill, auto-wrecking yard, model airplane launching pad, hospital, drive-in theatre, wastewater effluent receptacle, and cattle pasture).

AN EQUAL OPPORTUNITY EMPLOYER



PRESS RELEASE  
(continued)

A cross-section of interested parties has been working on a committee led by the State of Hawaii Department of Planning and Economic Development (DPED), and assisted by a grant from the National Office of Coastal Zone Management, to develop a management plan for the marsh. Dr. Drigot's environmental education project is ongoing at a time when this committee is preparing its final recommendation to the Governor.

Participating in this effort will enhance student knowledge of many basic physical and ecological processes that are illustrated at the marsh. Their awareness will also increase as to how ecological, economic, and socio-cultural values and tradeoffs are identified and considered in the planning process as they observe and record land use decisions that are currently being made for this area. The students' efforts will be recognized in that they will be credited for their contribution in the finished product, to be distributed through the University library system to all who wish to visit the marsh to learn and to teach.

Use of a faculty-directed, team project format for this class represents application of the "environmental encounter" approach to learning. The environmental encounter is an instructional technique for studying the environment which emphasizes not only development of interest, awareness, understanding, and respect for the environment, but also the development of problem-solving and valuing skills. The learner is provided with opportunities to become personally involved in positive action on the issue being studied. This approach was evolved by Dr. William Stapp, first director of the UNESCO's World Environmental Education Programme and Chair of the Behavior and Environment Program at the University of Michigan, School of Natural Resources. Dr. Drigot was associated with Dr. Stapp and his program while earning her M.S. and Ph.D. degrees in the related areas of Natural Resources--planning, policy, and management.



# BBC Is Again Filming Natural History of Isles

By Harry Whitten  
Star-Bulletin Writer

Hawaii's natural history is so fascinating for a British television producer that he came 9,000 miles here for his fourth filming venture in 2½ years.

Roger R. Jones, producer of the "World About Us" series for the British Broadcasting Corp., and his crew started filming a new series Monday. They will be here until Feb. 10 during which time they will film segments on Oahu, the Big Island, Maui and Kauai.

Jones, who has been producing films for 12 years for BBC, said the series about Hawaii's natural history will show the relationship of endemic plants and animals to introduced plants and animals and the impact of introduced species, such as lantana and *Clidemia hirta*.

The series will cover a broad range, from Hawaiian uses of Kawaiinui Marsh to current problems with the Mediterranean fruit fly, he said.

Jones said he is enthusiastic about the potential for filming natural history subjects in Hawaii and thinks it ironic that the BBC is doing it instead of American filmmakers.

"HAWAII IS important in the plans of BBC," he said. "And University of Hawaii students will benefit from these films. People will be able to get a better appreciation of what a heritage Hawaii has—a heritage being ruined by introduction of exotic plants and animals and by exploitation in the past."

Film programs that he made in 1980 for BBC have been used in courses by England's Open University and also at the University of Hawaii in teaching of evolution.

"World About Us" will be screened by Station WBGH, Boston, for possible use in the "Nova" program under a reciprocal arrangement with BBC.

The BBC's natural history unit is also producer of the 13-part "Life on Earth" series being broadcast in weekly installments by

public television stations. The first segment was broadcast here at 7 p.m. Tuesday on KHET, Channel 11.

Jones is also producing some material for "The Planet Earth" series that the BBC's David Attenborough is preparing as a follow-up series to "Life on Earth."



Roger Jones

WITH JONES now is a three-person crew, members of which will return to Bristol, England, Jan. 27 when an expert at micro-photography will come for close-up filming, mostly of entomological subjects, until Feb. 10.

Jones said the "World About Us" series is well known in Britain, where it has been running for 15 years.

Subjects being filmed on Oahu include the Ulu Po Heiau near Kailua, taro cultivation by Seiyu Nakata at Kahaluu, work of University of Hawaii geneticists with the native *Drosophila* flies, the Mediterranean fly rearing facility near Kewalo Basin, the state plant quarantine station, exotic birds at Waimea Falls Park, hang gliders at Makapuu Point, high surf, orchid raising at Waianae, sink holes in coral at Barbers Point, and possibly other subjects.

Mapuana De Silva gave a chant at Kawaiinui telling some of the marsh's history while members of her hula troupe danced.

Big Island topics include the papaya and sugar crops at Puna, the native apapane and i'iwi birds, Parker Ranch, Mauna Kea, kipukas (islands of trees surrounded by lava), and possibly other subjects.

MAUI TOPICS include Haleakala Crater, the native Hawaiian goose (nene), goat and pig damage, silver swords, and mating behavior of Medflies.

Kauai topics include the Na Pali Coast, fishponds, and the impact of cattle egrets, an introduced bird species, on the booby bird colony at Kilauea Point.

Steve Montgomery and Ken Kaneshiro of the University of Hawaii are consultants on the film project, and many others have cooperated, including persons from the university, state Department of Agriculture and Bishop Museum, Jones said.

He is a biologist by training who received his Ph.D. at Cambridge University and got into his current field by producing films for the Open University, which permits students to obtain degrees by studying at home.

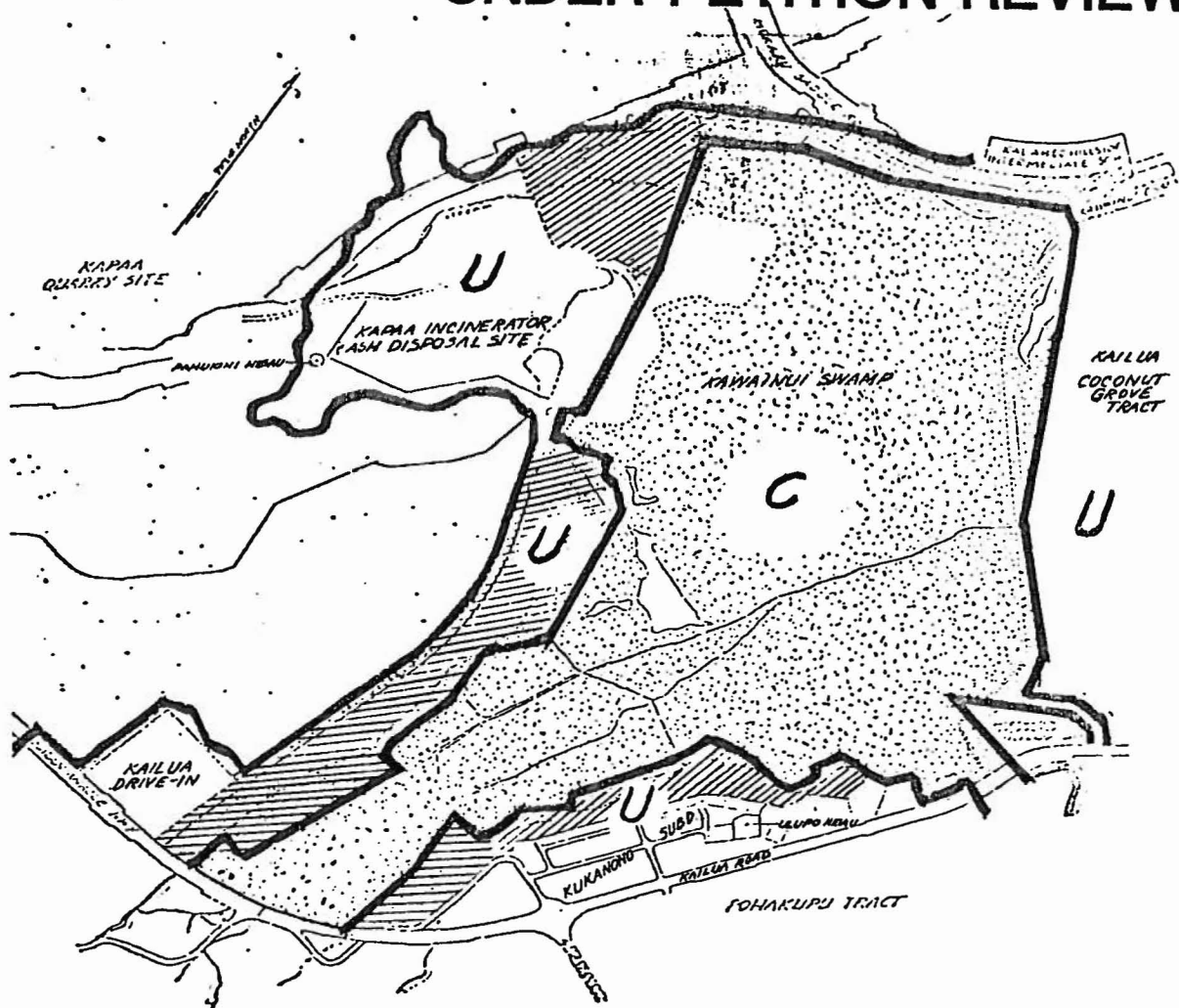
A man of wide interests and skills, Jones writes poetry, is writing a book about his projects, and does the drawings to illustrate the book.

He has produced films previously on such topics as English heathlands, the cliff birds of England and Ireland, and efforts by large units of government and business to minimize damage to the environment.

An upcoming project, "Fish and Forest," will take him into the tropical rain forest along the Orinoco River in South America.

# ATTACHMENT B-1

## 1976 MARSH AREA UNDER PETITION REVIEW



### EXISTING LAND USE BOUNDARIES

DRAFT

#### LEGEND

- U Urban
- C Conservation
- M Marsh Land
- P Petition Area  
Urban to Cons.

ENVIRONMENTAL IMPACT STATEMENT

US DEPARTMENT OF THE ARMY PERMIT APPLICATION  
FOR

OLOMANA-MAUNAWILI SEWER PROJECTS,  
KAWAINUI MARSH, OAHU, HAWAII

US Army Engineer District, Honolulu  
September 1980



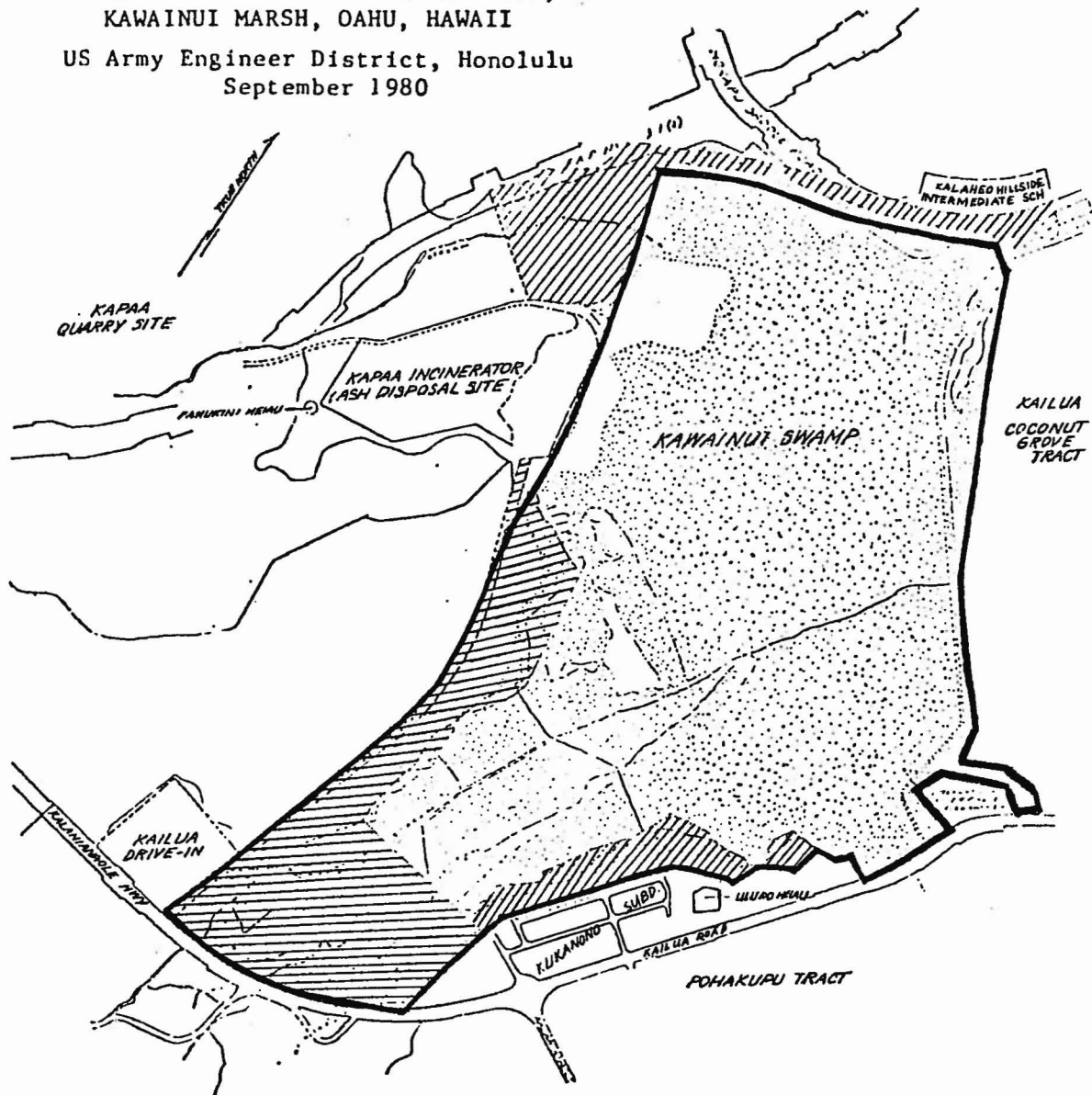
DRAFT  
 ENVIRONMENTAL IMPACT STATEMENT  
**BOUNDARIES OF MARSH AS INDICATED  
 BY DRAFT EIS FOR SEWER PROJECT**

US DEPARTMENT OF THE ARMY PERMIT APPLICATION

FOR

OLOMANA-MAUNAWILI SEWER PROJECTS,  
 KAWAINUI MARSH, OAHU, HAWAII

US Army Engineer District, Honolulu  
 September 1980



BOUNDARIES OF KAWAINUI MARSH